

Intellect Testing Survey Results January 2003

Introduction

Intellect's Testing Group aims to improve the standard and awareness of software and systems testing products and services. Over the last few months the Group has been following a programme of activities seeking to promote and define best practise. An important part of this programme is to ascertain the present take-up, and perceptions of, Testing products and services. This survey of Intellect's membership is one of the approaches that the group has taken to this. In particular, the survey was devised to illuminate the following issues:

Is Testing perceived to be valuable and important amongst Intellect's membership?
What are the barriers to Testing?
What are the costs and budgets associated with Testing?
How is Testing practised - what tools are used, is it in-house or outsourced?
Is Testing becoming more of a business issue?
Is there a strategy/provision for training testers?

The survey consisted of 28 questions and went to 600 of Intellect's members amongst whom are software and services, consumer electronics, components and manufacturing and wireless companies. In particular people whose roles included Business Development, Quality/R&D and Product Directors/Managers were targeted in the hope of maximum take-up. The survey was also sent to the Testing Group.

27 of those targeted responded to the survey. This represents a 4% proportion of those targeted. Established surveys (such as Intellect's CEO survey) expect a maximum of 25% whilst unsolicited surveys normally expect a 3% response. For the sample size, this represents an acceptable response but it does therefore limit the conclusions that can be drawn from the results.

Respondents included Fujitsu services, Logica and SAP although many of the respondents came from Intellect's Testing Group member companies – a factor which makes many of the responses predictable. For example Q15 asked 'Do you test in-house or outsource?' to which 92% of respondents replied 'in-house'.

The results of the survey can be found below, as well as the original questions in the appendix.

Survey results

Respondent's key markets corresponded to all of those listed (Banking and Finance, IT & Telecoms, Public Sector and Retail, Services and Transport) except for Manufacturing. Each of them was well represented.

Nearly all correspondents (93%) used a client/server system for their businesses, but there was additional use of mainframes and other systems. Businesses use a mix of custom and package software for different purposes also, but more respondents replied that they used custom software for their purposes. Given the proportion of testing industry representatives who responded to the survey, it is unsurprising to find that 70% of respondent's responsibility for implementing systems was to test them. Specifying, implementing after the business decision had been taken, and integrating were also the responsibility of about 40% of those who replied, whilst the actual purchasing responsibility was only cited by a fifth of respondents.

The majority of respondents expected the pace of business change and the pace of IT delivery to be more intense in 2003 (60%). This is in addition to believing that the pace of business change and the delivery that IT systems must achieve had increased since 2001. However, a significant minority of 20%

foresaw a reduction in the pace of IT delivery in 2002 whilst the pace of business change remained the same.

Despite 60% of respondents expecting the burden on IT delivery to increase next year, 50% said that the budget for Testing will stay the same as the % of total IT spend in 2003. Only an eighth predicted any increase in budget provision for testing.

Of those who expected their Testing budget to alter as a percentage of total IT spend in 2003, one third of respondents cited Business or IT pressures as being the reason for change, whilst the remaining third cited other reasons, of which those identified were, 'Implementing a 'proper' test process, and 'the Euro.'

Perhaps unexpectedly, when asked, 'Is Testing specified as a separate item within the IT budget?', two fifths replied that it was not. Happily however 80% of respondents have a defined development process and 84% have a defined testing process.

Cost reduction was the most important business issue to respondees at this time with one third of those answering the question citing it. The other big issues with a fifth of respondents each were eBusiness implementation and Business Risk Reduction. A further thirteen percent cited the expansion of their companies as being most important to them at this time.

Only 68% of those surveyed always test applications before launch – at least some of those respondents who replied that they did not came from the Testing industry! Also, nearly 15% associate a low risk with launch without testing. More encouragingly, 80% said that launch without testing carried a high risk.

It was unsurprising to find that 92% of respondents test in-house rather than outsource given that many of them provide testing services and solutions.

There were no responses to the question, 'What percentage of testing do you outsource?' However there were a number of responses to the question, 'What are the good and bad parts associated with outsourcing?' These were,

Pros	Cons
Cost reduction Fixed, known costs Higher Quality No need to have specific resource available for in-house testing Enables developers to concentrate on product development	Lack of understanding business application. Not always aware of the urgency of the task Lack of understanding of what's required

46% of respondents identified not understanding the business as a common failing of outsourced test suppliers, and a further 25% identified not understanding the systems.

90% of the respondents though that testing is becoming more of a business issue. It is project managers or CEOs who normally decide if testing is required and should be undertaken. Only one sixth of respondent said that the IT Director or manager was responsible for these decisions. When asked, 'What single issue would be most likely to bring testing to the attention of business leaders?' half of the correspondents thought that risk reduction was the single issue and 38% thought cost reduction would be the most important factor.

The answers to, 'Which standards are you aware of and which do you employ?' are as follows:

CMM – employed ISO – employed ISEB; ISO9001; Software Testing Part 1: Vocabulary, BS 7925-1:1998, BSI, August 1998 IEEE Standard for Software Test Documentation”, IEEE Std 829-1998, IEEE, December 1998; BS7925.

Similar numbers employed automation in their testing strategy as did not. Of those who did employ automation, the majority automated between 25 and 50 percent of the strategy. Also, those who automated tended to use a mix of simple spreadsheet tools, second-generation Capture/Replay tools and third-generation Table Driven tools.

Unsurprisingly, half of respondents had a team of dedicated testers. For the remaining respondents, testers were normally part of the development process and otherwise part of the IT team. For those that employed testers, there tended not to be a structured career path with two thirds answering ‘no’ to this question. Training for in-house testers comprised a mix of in-house, ISEB and tool-specific training, with an emphasis on in-house training. Cost and time considerations were the main considerations that influence companies’ approach to training, with other reasons cited as being, *quality of training* and *training requirements currently under review*.

Conclusions

Many of the answers reflect the observations of the Testing group. For instance, it was interesting to see that Risk was identified as being important to bring testing to the attention of business leaders. The Testing Group have published a white paper on Operational Risk addressing the issues of Testing and Risk from a business perspective. However, some of the correlation in views is perhaps predictable due to the number of respondents coming from the Testing industry.

Having determined a limited view of the perceptions and take-up of good Testing practise amongst Intellect’s membership, it would be valuable to pursue a broader perspective, and further research in this area to determine the affects of a company’s Testing strategy on its IT performance and annual turnover.

It would also be interesting to find out whether one of the reasons for a low response to the survey was that receivers of the survey lacked sufficient knowledge of Testing processes, did not have a Testing strategy to comment upon, or did not perceive Testing to be relevant to them.

Appendix: Testing Survey Questions

1. What is your key market?

Banking & Finance

IT & Telecoms

Public Sector

Retail, Services & Transport

Manufacturing

Other

2a. What types of system does your business use?

Mainframe

Client/Server

Other

2b. What types of software does your business use?

Custom software

Package software

3. What is your department’s responsibility in implementing these systems?

Specify

Purchase

Implement after business decision taken

Integrate
Test
Other

4. Is the pace of business change and the delivery that IT systems must achieve more or less intense than in 2001?

More
Less
Same

5. Do you expect the pace of business change to be more or less intense in 2003 than in 2002?

More
Less
Same

6. Do you expect the pace of IT delivery to be more or less intense in 2003 than in 2002?

More
Less
Same

7. Is testing specified as a separate item within the IT budget?

Yes
No

8. Do you have a defined development process?

Yes
No

9. Do you have a defined testing process?

Yes
No

10. Will the testing budget be more or less as a percentage of the total IT spend in 2003?

Significantly more
Slightly more
Same
Slightly less
Significantly less
Don't know

11. If the testing budget is expected to alter as a percentage of total IT spend in 2003, what is the reason for the change?

IT pressures
Business pressures
Other

12. Which of the following is most important to you at this time?

Cost reduction
eBusiness implementation
CRM implementation
Business risk reduction
Mobile solutions
Other

13. Do you always test applications before launch?

Yes
No

14. What level of risk do you associate with launch without testing?

High
Medium
Low

15. Do you test inhouse or outsource?

In-house
Outsource

16. What percentage of testing do you outsource?

17. What are the good and bad points associated with outsourcing?

18. What are the common failings of outsource test suppliers?

Don't understand business
Don't understand systems
Take too long
Too expensive
Other

19. Is testing becoming more of a business issue?

Yes
No

20. Who in your organisation usually decides if testing is required or should be undertaken?

CEO/MD
Finance Director
IT Director
IT Manager
Project Manager
Testing Manager

21. What single issue would be most likely to bring testing to the attention of business leaders?

Risk reduction
Cost reduction
Process improvement
Brand protection
Other

22. Which standards are you aware of and which do you employ?

23a. Do you employ automation in your testing strategy?

Yes
No

23b. If so, what percentage is automated?

5% or less
Between 5% and 10%
Between 10% and 25%
Between 25% and 50%
More than 50%

24. What tools do you use to achieve automation?

- Simple spreadsheet based tool
- Second generation Capture/Replay tool
- Third generation Table Driven tool

25. Do you employ a team of dedicated testers or is testing part of another function?

- Dedicated test team
- Part of development process
- Part of IT team
- Other

26. If you employ testers, do you have structured career path?

- Yes
- No

27. If you employ testers, what training do you provide for them?

- In house
- ISEB
- Tool specific
- Other

28. What are the main considerations that influence your approach to training?

- Lack of time to train
- Cost of training
- Staff retention
- Other